No. 9500284

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Colorado State University

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN ADDITION, UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF [illegible] 84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Akron'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirtieth day of April in the year of our Lord one thousand nine hundred and ninety-six.

Attest:

Marsha A. Stanton
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Dan Glickman
Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions.*

FORM APPROVED - OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a).

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*

COLORADO STATE UNIVERSITY

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER

CO 880169

3. VARIETY NAME

Akron

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*

Department of Soil and Crop Sciences
Colorado State University
Fort Collins, CO 80523

5. TELEPHONE *(include area code)*

970-491-6483

6. FAX *(include area code)*

970-491-0564

FOR OFFICIAL USE ONLY

PVPO NUMBER: 9500284

FILING DATE: Aug 28, 1994 9500284

FEES RECEIVED:
FILING AND EXAMINATION FEE: $ 2450.00
DATE: Aug 28, 1995
CERTIFICATION FEE: $ 300.00
DATE: 3-26-96

7. GENUS AND SPECIES NAME

Triticum aestivum L.

8. FAMILY NAME *(Botanical)*

Graminae

9. CROP KIND NAME *(Common name)*

Wheat, common

10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.) (Common name)*

COLORADO STATE UNIVERSITY

11. IF INCORPORATED, GIVE STATE OF INCORPORATION

12. DATE OF INCORPORATION

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

James S. Quick
Department of Soil and Crop Sciences
Colorado State University
Fort Collins, CO 80523

14. TELEPHONE *(include area code)*

970-491-6483

15. FAX *(include area code)*

970-491-0564

16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow instructions on reverse)*

- a. [X] Exhibit A. Origin and Breeding History of the Variety
- b. [X] Exhibit B. Statement of Distinctness
- c. [X] Exhibit C. Objective Description of the Variety
- d. [X] Exhibit D. Additional Description of the Variety
- e. [X] Exhibit E. Statement of the Basis of the Applicant's Ownership
- f. [X] Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository)*
- g. [X] Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to PVPO)*

17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)?*

[X] YES *(If "yes," answer items 18 and 19 below)* 05 Mar 1996 AAA per letter with altered copy of form 470 [ ] NO *(If "no," go to item 20)*

18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?

[X] YES [ ] NO

19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?

[X] FOUNDATION [X] REGISTERED [X] CERTIFIED

20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?

[X] YES *(If "yes," give names of countries and dates)* [ ] NO

"USA - 16 Aug 1994" AAA 05 Mar 1996 per letter w/ altered copy of Form 470

21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT *(Owner(s))*		SIGNATURE OF APPLICANT *(Owner(s))*	
James S. Quick (signature)			
NAME *(Please print or type)* JAMES S. QUICK		NAME *(Please print or type)*	
CAPACITY OR TITLE: Professor	DATE: 15 Aug 95	CAPACITY OR TITLE	DATE

SD-470 (04-95) *(Previous editions are to be destroyed)*

(See reverse for instructions and information collection burden statement)

EXHIBIT A - BREEDING HISTORY

Geneology - 'Akron', PI 584504, was selected from the cross 'TAM107'/'Hail' made in 1984. TAM107 was released by the Texas Agricultural Experiment Station in 1984 and has been the predominant cultivar grown in Colorado during 1989-1995. Hail was released by the Colorado Agricultural Experiment Station in 1982 and has hail resistance due to its very lax spike.

The breeding method used was a modified pedigree method. The F_1-F_5 generations were grown in the field at Fort Collins in 1984-1988. Akron is an F_4-derived line bulked in 1988 and tested as CO880169. It was later purified for plant type by the selection of 60 head rows from the $F_{4:7}$ generation to form the source of breeder seed.

Akron has been tested in Colorado yield nurseries since 1989, and in the Southern Regional Performance Nursery in 1993 and 1994. Approximately 150 pounds of breeder seed were produced in 1993. The breeders seed was planted under irrigation in 1993 and about 320 bushels of foundation seed was harvested in 1994. Akron was entered in the small scale milling and baking trials and evaluated by the Hard Wheat Quality Advisory Committee in January 1993 and 1994. The cultivar was named and released in August 1994, and the foundation seed distributed to seed producers in September 1994.

Under an isolated reproduction system the cultivar Akron has no known variants. Akron has been observed in field tests for five generations and is stable to the best of our knowledge with respect to genetic change caused by mutations or heterozygosity.

EXHIBIT B - STATEMENT OF DISTINCTNESS

Akron was released because of high grain yield, resistance to leaf rust (incited by Puccinia recondita Roberge ex Desmaz.), and improved bread-baking quality. It is most similar in general appearance to 'Hail', but can be easily distinguished from Hail because it heads about four days earlier. It has a very lax spike from spike emergence to maturity, probably contributing to its hail tolerance. It is similar to its parent TAM107 in grain size and shape, but has superior baking characteristics. It is similar to TAM107 in leaf size, color, and carriage but has leaf rust resistance, tillering ability, and lax spike from its parent Hail.

Information for 'Akron'

1. Akron was officially released by signature of the Director of the Agricultural Experiment Station on August 16, 1994 (copy enclosed) and public information distributed in June 1995. I filed the application for Akron on August 15, 1995 so I consider Akron eligible for protection. In actuality, Akron was not released to the public until August 1, 1995 since only ten seed growers obtained seed for multiplication in 1994. I do not know when the application reached your office because I was on leave at CIMMYT in Mexico. I failed to complete items 17-20 on the PVP application, so I have attached a revised copy.

2. Novelty of Akron: The clear difference between Akron and Jules is about 4 days difference in days to heading. In 3 years at Fort Collins, 1993, 1994, and 1995, Akron averaged 152 days to heading and Jules averaged 156 days (LSD.05 = 2.3). The clear difference between Akron and Halt is the resistance of Halt to RWA.

3. Exhibit A - Breeding history: More than 20 selection criteria were used in the development of Akron, the major ones being: lax spike, early maturity, semidwarf height, wheat streak mosaic resistance, and winter hardiness.

4. Exhibit B - Novelty: see item 2. In 3 years at Fort Collins, 1993, 1994, and 1995, Akron averaged 152 days to heading and Jules averaged 156 days (LSD.05 = 2.3). Information on the cultivar Hail is provided on Exhibit C as requested. Please note that auricle anthocyanin is present on both Akron and Hail until late jointing stage.

5. Exhibit E - Ownership: the following revised statement is provided: "The cultivar Akron, for which Plant Variety Protection is hereby sought, was developed by a Colorado State University (CSU) team led by Dr. James S. Quick, an employee of CSU. By agreement between Dr. Quick and CSU, all rights to all cultivars developed by him while employed by CSU were assigned to CSU."

6. Milling & Baking Data: Milling and baking data are provided in a table as requested.

9500284

Colorado State University

Department of Soil and Crop Sciences
Fort Collins, Colorado 80523-1170
(970) 491-6517
FAX: (970) 491-0564

February 13, 1996

Dr. Alan Atchley
Plant Variety Protection Office
NAL Building, Room 500
10301 Baltimore Blvd.
Beltsville, MD 20705-2351

Dear Dr. Atchley:

SUBJECT: PVP Application No. 9500284 Wheat 'Akron'

Thank you for your letter of January 19 requesting additional information for the PVP applications for the wheat 'Akron'. The requested information is provided below.

Information for differentiation between 'Akron' and 'Hail'

I am sorry to have neglected the issue of maturity data. The difference between Akron and Hail is about 4 days difference in days to heading. In 2 years at Fort Collins, 1993 and 1994, Akron averaged 150 days to heading and Hail averaged 154 days. We made the following conclusions from the statistical analyses using data for five cultivars:

1. The cultivars Akron and Hail were statistically different in each of the two years of comparisons:

	1993	1994	Mean
Akron	152	148	150
Hail	156	152	154
LSD 0.05	0.61	1.39	
CV %	0.29	0.58	

2. The coefficients of variation were very low and typical for data on days to heading at Fort Collins; hence, comparisons of F values for homogeneity of variances were not considered useful.

Please notify me if you need further information. Thanks for your consideration.

Sincerely,

James S. Quick
Professor

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FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
COMMODITIES SCIENTIFIC SUPPORT DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
COLORADO STATE UNIVERSITY

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)
DEPARTMENT OF SOIL AND CROP SCIENCES
COLORADO STATE UNIVERSITY
FORT COLLINS, CO 80523

FOR OFFICIAL USE ONLY
PVPO NUMBER 9500284

VARIETY NAME OR TEMPORARY DESIGNATION
AKRON

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. KIND:
[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:
[2] 1 = SPRING 2 = WINTER 3 = OTHER (*Specify*) _____ [2] 1 = SOFT 2 = HARD 3 = OTHER (*Specify*) _____

[2] 1 = WHITE 2 = RED 3 = OTHER (*Specify*) _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:
[2][5][3] FIRST FLOWERING [2][5][9] LAST FLOWERING

4. MATURITY (*50% Flowering*):
[0][1] NO. OF DAYS *EARLIER* THAN ..... [2] 1 = ARTHUR 2 = SCOUT 3 = CHRIS
[ ][ ] NO. OF DAYS *LATER* THAN ..... [ ] 4 = LEMHI 5 = NUGAINES 6 = LEEDS

5. PLANT HEIGHT (*From soil level to top of head*):
[0][9][1] CM. HIGH
[ ][ ] CM. TALLER THAN ..... [ ]
[1][4] CM. SHORTER THAN ..... [2] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

6. PLANT COLOR AT BOOTING (*See reverse*):
[2] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHER COLOR:
[1] 1 = YELLOW 2 = PURPLE

8. STEM:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[2] Waxy bloom: 1 = ABSENT 2 = PRESENT
[1] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT
[1] Internodes: 1 = HOLLOW 2 = SOLID
[0][5] NO. OF NODES (*Originating from node above ground*)
[2][3] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[1] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:
[1] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (*Specify*): _____
[1] Flag leaf: 1 = NOT TWISTED 2 = TWISTED
[1] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT
[2] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
[1][8] MM. LEAF WIDTH (*First leaf below flag leaf*)
[2][6] CM. LEAF LENGTH (*First leaf below flag leaf*):

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11. HEAD:

[1] Density: 1 = LAX 2 = DENSE Very lax

[1] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) _____

[4] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

[1] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

[10] CM. LENGTH

[10] MM. WIDTH

12. GLUMES AT MATURITY:

[2] Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)

[2] Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

[2] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[3] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

[1] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[1] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

[2] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

[1] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[1] Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

[1] Brush: 1 = NOT COLLARED 2 = COLLARED

[4] Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[3] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

[06] MM. LENGTH

[03] MM. WIDTH

[35] GM. PER 1000 SEEDS

17. SEED CREASE:

[3] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

[1] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[2] STEM RUST (Races) mixture

[2] LEAF RUST (Races) mixture

[0] STRIPE RUST (Races) _____

[0] LOOSE SMUT

[1] POWDERY MILDEW

[1] BUNT

[ ] OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] SAWFLY

[0] APHID (Bydv.)

[0] GREEN BUG

[0] CEREAL LEAF BEETLE

[1] OTHER (Specify) R. Wheat Aphid

HESSIAN FLY RACES:

[0] GP [0] A [0] B [0] C

[0] D [0] E [0] F [0] G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	HAIL	Seed size	TAM 107
Leaf size	TAM 107	Seed shape	TAM 107
Leaf color	TAM 107	Coleoptile elongation	HAIL
Leaf carriage	TAM 107	Seedling pigmentation	HAIL

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States. Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

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EXHIBIT D - ADDITIONAL DESCRIPTION

The cultivar Akron has been released because of its performance data in Colorado tests. In four years of dryland testing in the Colorado Variety Trial (30 location-years), Akron's grain yield (2680 kg ha^{-1}) was 3% lower than TAM107, and 2% higher than 'Yuma'. In three years of testing in the irrigated Colorado Variety Trial (7 location-years), Akron was 2, 5, and 6% higher yielding than 'TAM200', Yuma, and TAM107, respectively. Akron had 3 and 2% higher yields than TAM107 at Colorado locations of the 1993 and 1994 Southern Regional Performance Nursery, respectively. Akron is 5 cm taller than Yuma and TAM107 and 10 cm shorter than 'Lamar', a conventional height wheat. Akron has a shorter coleoptile (85 mm) than TAM107 (95 mm). Akron is recommended for all production areas in Colorado where the Russian wheat aphid (Diuraphis noxia, Mordvilko) is not a significant threat.

The grain volume weight of Akron is similar to TAM107 and Yuma and less than Lamar. The winter hardiness of Akron is adequate for Colorado growing conditions, and is equal to Lamar. Akron is a medium-early cultivar, 3 d later in anthesis than TAM107 and 3 d earlier than 'Jules'. The straw strength of Akron is equal to TAM107 and should be adequate for both dryland and irrigated conditions in Colorado. Akron is resistant to the prevalent races of leaf rust and moderately resistant to prevalent races of stem rust (incited by P. graminis Pers.:Pers.). Based on field observations for incidence of wheat streak mosaic virus, Akron is moderately susceptible.

Based on composite samples from several Colorado locations, the wheat and flour protein of Akron is similar to TAM107 and less than Lamar. Akron has strong mixing characteristics as determined by the mixograph. In Colorado and regional milling and baking tests, Akron has been similar in overall quality to Lamar, a high quality standard, and superior to TAM107. The kernels of Akron have been classified by the Federal Grain Inspection Service as hard red winter wheat.

EXHIBIT E - OWNERSHIP

The applicant is the developer and true owner of this cultivar, and is the employer of the breeding team.

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Wheat Quality Comparisons
1990-1993

	Flour		Dough* Mix	Loaf**		Overall Baking
	% Protein	% H_2O Abs.	Time	Volume	Crumb Grain	Score
1993 Wheat Quality Council						
AKRON	11.5	3.4	4.0	2.8	3.4	3.1
HALT	12.2	3.4	3.5	3.8	3.2	3.3
TAM 107	11.0	3.7	3.0	2.7	2.2	2.1
Lamar	12.4	3.7	3.4	2.6	2.8	2.9
1992 Wheat Quality Council						
		***		***	***	***
AKRON	11.8	3.0	3.5	3.5	2.9	3.1
Jules	11.1	3.1	3.4	3.0	2.9	3.0
TAM 107	11.3	3.4	2.8	3.1	2.2	2.3
Lamar	12.4	3.6	3.3	3.6	2.8	3.1
1991 CSU Lab - Akron Seed						
					***	
AKRON	9.3	-	4.1	805	2.6	-
Jules	11.7	-	4.2	840	2.2	-
TAM 107	9.6	-	2.9	795	2.4	-
Yuma	12.2	-	4.9	820	2.4	-
Lamar	11.0	-	4.0	845	2.6	-

* Dough mix time is time to curve peak on mixograph.
** Loaf volume is in cubic centimeters; crumb grain is 1 to 6 score.
*** 1 to 6 score, 6 = superior

1993 CSU Lab - 3 Locations

Location	Variety	H2O Absorp.	Vol.	Bread Grain	Tex.	Mix Time
F Coll.	Lamar	64	680	VG	VG	3.4
"	TAM 107	64	680	G+	G+	3.0
"	HALT	64	730	VG	Ex	2.5
Akron	Lamar	64	855	G-	Ex	3.1
"	TAM 107	64	820	G-	VG	3.2
"	HALT	64	1000	G-	Ex	2.6
Burl.	Lamar	64	810	G	Ex	3.0
"	TAM 107	64	755	G	VG	3.0
"	HALT	64	825	G-	VG	2.2